

LISTING OF CLAIMS:

1. (Currently Amended) A method comprising the steps of:
introducing a primate cell nucleus along with ~~one or more molecular~~
~~components selected from the group consisting of a centrosome protein, a~~
~~centrosomal component from a sperm centrosome, a mitotic motor protein, and~~
~~combinations thereof~~, into an enucleated primate egg;
activating said primate egg; and
culturing said primate egg to produce a viable primate embryo.
2. (Previously Presented) The method of claim 1, wherein said nucleus has desired characteristics.
3. (Previously Presented) The method of claim 2, wherein said desired characteristics are linked to a specific disease or disorder.
4. (Previously Presented) The method of claim 3, wherein said specific disease or disorder is selected from the group consisting of cardiovascular disease, neurological disease, reproductive disorder, cancer, eye disease, endocrine disorder, pulmonary disease, metabolic disorder, autoimmune disorder, and aging.
5. (Previously Presented) The method of claim 1, wherein said introducing step comprises performing SCNT.
6. (Previously Presented) The method of claim 5, further comprising the step of performing pronuclear removal after SCNT.
7. (Previously Presented) The method of claim 5, further comprising the step of performing a second nuclear transfer following said SCNT.
8. (Previously Presented) The method of claim 1, wherein said introducing step further comprises performing meiotic spindle collapse.
9. (Previously Presented) The method of claim 1, further comprising the step of performing ooplasmic supplementation following said introducing step.
10. (Previously Presented) The method of claim 9, wherein said ooplasmic supplementation is performed by ooplast electrofusion.
11. (Previously Presented) The method of claim 9, wherein said ooplasmic supplementation is performed by microinjection.
12. (Cancelled)
13. (Currently Amended) The method of claim 1, wherein said centrosomal

component comprises one or more molecular components comprise mitotic motor proteins and centrosome proteins.

14. (Previously Presented) The method of claim 13, wherein said mitotic motor proteins comprise kinesins.

15. (Previously Presented) The method of claim 14, wherein said kinesins comprise HSET kinesin.

16. (Previously Presented) The method of claim 13, wherein said centrosome proteins comprise NuMA.

17. – 20. (Cancelled)

21. (Previously Presented) The method of claim 1, wherein said viable embryo is transgenic.

22. (Withdrawn) The method of claim 1, further comprising the step of producing embryonic stem cells from said viable embryo.

23. (Withdrawn) The method of claim 22, wherein said embryonic stem cells are human and said viable embryo is human.

24. – 27. (Cancelled)

28. (Withdrawn) A method comprising the steps of:

introducing nuclei along with one or more molecular components into an egg;

culturing said egg to produce a viable embryo;
dissociating blastomeres from said embryo; and
culturing said blastomeres to produce stem cells.

29. (Withdrawn) The method of claim 28, wherein said nuclei have desired characteristics.

30. (Withdrawn) The method of claim 29, wherein said desired characteristics are linked to a specific disease or disorder.

31. (Withdrawn) The method of claim 30, wherein said specific disease or disorder is selected from the group consisting of cardiovascular disease, neurological disease, reproductive disorder, cancer, eye disease, endocrine disorder, pulmonary disease, metabolic disorder, autoimmune disorder, and aging.

32. (Withdrawn) The method of claim 28, wherein said introducing step comprises performing SCNT.

33. (Withdrawn) The method of claim 32, further comprising the step of

performing pronuclear removal after said SCNT.

34. (Withdrawn) The method of claim 32, further comprising the step of performing a second nuclear transfer following said SCNT.

35. (Withdrawn) The method of claim 28, wherein said introducing step further comprises performing meiotic spindle collapse.

36. (Withdrawn) The method of claim 28, further comprising the step of performing ooplasmic supplementation following said introducing step.

37. (Withdrawn) The method of claim 36, wherein said ooplasmic supplementation is performed by ooplast electrofusion.

38. (Withdrawn) The method of claim 36, wherein said ooplasmic supplementation is performed by microinjection.

39. (Withdrawn) The method of claim 28, wherein said one or more molecular components comprise centrosomal components normally present in sperm centrosomes.

40. (Withdrawn) The method of claim 28, wherein said one or more molecular components comprise mitotic motor proteins and centrosome proteins.

41. (Withdrawn) The method of claim 40, wherein said mitotic motor proteins comprise kinesins.

42. (Withdrawn) The method of claim 41, wherein said kinesins comprise HSET kinesin.

43. (Withdrawn) The method of claim 40, wherein said centrosome proteins comprise NuMA.

44. (Withdrawn) The method of claim 28, wherein said stem cells are primate embryonic stem cells.

45. (Withdrawn) The method of claim 44, wherein said embryonic stem cells are transgenic primate embryonic stem cells.

46. (Withdrawn) The method of claim 45, wherein said transgenic embryonic stem cells are transgenic non-human primate embryonic stem cells.

47. (Withdrawn) An embryonic stem cell produced by the method of claim 28.

48. (Withdrawn) The embryonic stem cell of claim 47, wherein said embryonic stem cell is used for gene therapy.

49. (Withdrawn) The embryonic stem cell of claim 47, wherein said embryonic stem cell is used as a therapy for human disease.

50. – 66. (Cancelled)

67. (Withdrawn) The method of claim 50, further comprising the step of producing embryonic stem cells from said viable embryo.

68. (Withdrawn) The method of claim 67, wherein said embryonic stem cells are human and said viable embryo is human.

69. (Withdrawn) A method comprising the steps of:
introducing nuclei along with one or more molecular components into an egg;
culturing said egg to produce a viable embryo; and
dissociating blastomeres from said embryo.

70. (Withdrawn) The method of claim 69, wherein said nuclei have desired characteristics.

71. (Withdrawn) The method of claim 70, wherein said desired characteristics are linked to a specific disease or disorder.

72. (Withdrawn) The method of claim 71, wherein said specific disease or disorder is selected from the group consisting of cardiovascular disease, neurological disease, reproductive disorder, cancer, eye disease, endocrine disorder, pulmonary disease, metabolic disorder, autoimmune disorder, and aging.

73. (Withdrawn) The method of claim 69, wherein said introducing step comprises performing SCNT.

74. (Withdrawn) The method of claim 73, further comprising the step of performing pronuclear removal after said SCNT.

75. (Withdrawn) The method of claim 73, further comprising the step of performing a second nuclear transfer following said SCNT.

76. (Withdrawn) The method of claim 69, prior to said introducing step performing meiotic spindle collapse.

77. (Withdrawn) The method of claim 69, further comprising the step of performing ooplasmic supplementation following said introducing step.

78. (Withdrawn) The method of claim 77, wherein said ooplasmic supplementation is performed by ooplast electrofusion.

79. (Withdrawn) The method of claim 77, wherein said ooplasmic supplementation is performed by microinjection.

80. (Withdrawn) The method of claim 69, wherein said molecular components

comprise centrosomal components normally present in sperm centrosomes.

81. (Withdrawn) The method of claim 69, wherein said molecular components comprise mitotic motor proteins and centrosome proteins.

82. (Withdrawn) The method of claim 81, wherein said mitotic motor proteins comprise kinesins.

83. (Withdrawn) The method of claim 82, wherein said kinesins comprise HSET kinesin.

84. (Withdrawn) The method of claim 81, wherein said centrosome proteins comprise NuMA.

85. (Previously Presented) The method according to claim 1 wherein said nucleus is obtained from a donor cell selected from the group consisting of a dissociated granulosa cell, an endothelial cell, an isolated ICM cell derived from a blastocyst and a primary fibroblast cell line.

86. (New) The method according to claim 1 wherein said primate is a rhesus monkey.